Dell Vostro 3450 Owner's Manual

Regulatory Model P19G
Regulatory Type P19G001

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Contents

1

Working on Your Computer

Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following conditions exist:

- You have performed the steps in Working on Your Computer.
- You have read the safety information that shipped with your computer.
- A component can be replaced or--if purchased separately--installed by performing the removal procedure in reverse order.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.

CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.

CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.

CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

NOTE: The color of your computer and certain components may appear differently than shown in this document.

To avoid damaging your computer, perform the following steps before you begin working inside the computer.

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see *Turning Off Your Computer*).
3. If the computer is connected to a docking device (docked) such as the optional Media Base or Battery Slice, undock it.

CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

4. Disconnect all network cables from the computer.
5. Disconnect your computer and all attached devices from their electrical outlets.
6. Close the display and turn the computer upside-down on a flat work surface.

NOTE: To avoid damaging the system board, you must remove the main battery before you service the computer.

7. Remove the main battery.
8. Turn the computer top-side up.
9. Open the display.
10. Press the power button to ground the system board.

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the display.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

11. Remove any installed ExpressCards or Smart Cards from the appropriate slots.

Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- #0 Phillips screwdriver
- #1 Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program CD

Turning Off Your Computer

CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Shut down the operating system:

   - In Windows Vista :

     Click **Start** , then click the arrow in the lower-right corner of the **Start** menu as shown below, and then click **Shut Down**.

   - In Windows XP:

     Click **Start** → **Turn Off Computer** → **Turn Off** . The computer turns off after the operating system shutdown process is complete.

2. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 4 seconds to turn them off.

After Working Inside Your Computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.

CAUTION: To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.

1. Connect any external devices, such as a port replicator, battery slice, or media base, and replace any cards, such as an ExpressCard.
2. Connect any telephone or network cables to your computer.

CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.

3. Replace the battery.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.

2

Battery

Removing The Battery

1. Follow the procedures in *Before Working On Your Computer*.
2. Slide the left and the right battery release latches to the unlock position.

3. Slide the battery and remove it from the computer.

Installing The Battery

1. Slide the battery into its slot until it clicks into place.
2. Follow the procedures in *After Working Inside Your Computer*.

3

Memory Card

Removing The Memory Card

1. Follow the procedures in *Before Working On Your Computer*.
2. Press in on the memory card to release it from the computer.

3. Slide the memory card out of the computer.

Installing The Memory Card

1. Push the memory card into the compartment until it is fully engaged with a click sound.
2. Follow the procedures in *After Working Inside Your Computer*.

4

ExpressCard

Removing The ExpressCard

1. Follow the procedures in *Before Working On Your Computer*.
2. Press the ExpressCard to release it from the computer.

3. Slide the ExpressCard out of the computer.

Installing The ExpressCard

1. Push the ExpressCard into the compartment slot until it clicks into place.
2. Install the *battery*.
3. Follow the procedures in *After Working Inside Your Computer*.

5

Memory Door

Removing The Memory Door

1. Follow the procedures in *Before Working On Your Computer*.
2. Loosen the screw that secures the memory door.

3. Pry up the memory door near the screw hole, lift and remove it.

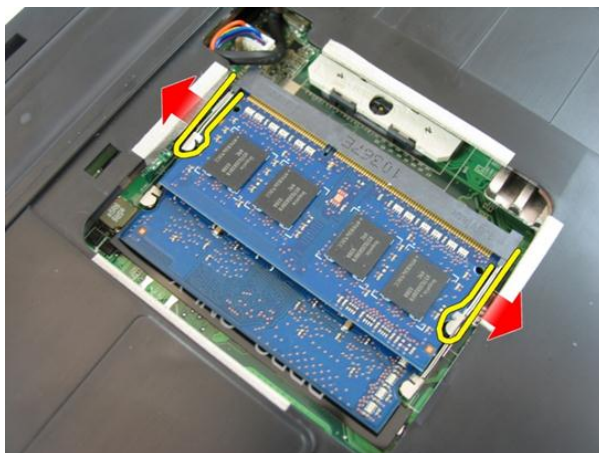
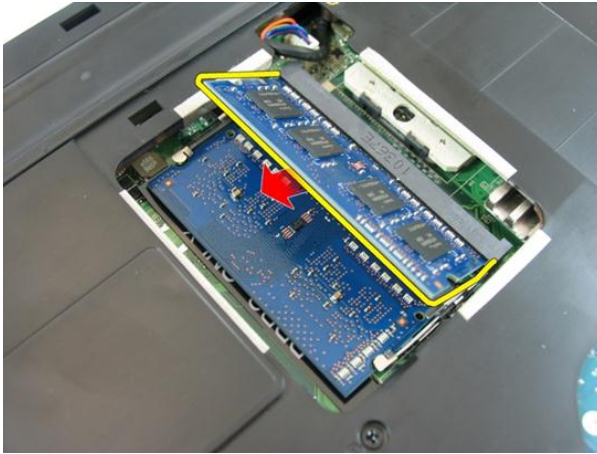
Installing The Memory Door

1. Place the memory door on the back of the computer.
2. Tighten the screw securing the memory door.
3. Install the *battery*.
4. Follow the procedures in *After Working Inside Your Computer*.

6

Memory

Removing The Memory Module

1. Follow the procedures in *Before Working On Your Computer*
2. Remove the *battery*.
3. Remove the *memory door*.
4. Pry the retention clips away from the memory module until it pops up.

5. Remove the memory module from its connector on the system board.

Installing The Memory Module

1. Insert the memory module into the memory socket.
2. Press down on the memory module until the retention clip secures the memory in place.
3. Install the *memory door*.
4. Install the *battery*.
5. Follow the procedures in *After Working Inside Your Computer*.

7

Optical Drive

Removing The Optical Drive

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *memory door*.
4. Remove the screw that secures the optical drive to the computer.

5. Use a screwdriver to gently pry the optical drive out of the computer.

6. Remove the screws that secure the optical drive bracket.

7. Remove the optical drive bracket from the optical drive module.

Installing The Optical Drive

1. Tighten the screws to secure the optical-drive bracket.
2. Slide the optical drive into the compartment on the chassis.
3. Tighten the screw to secure the optical drive to the computer.
4. Install the *memory door*.
5. Install the *battery*.
6. Follow the procedures in *After Working Inside Your Computer*.

8
Keyboard

Removing The Keyboard

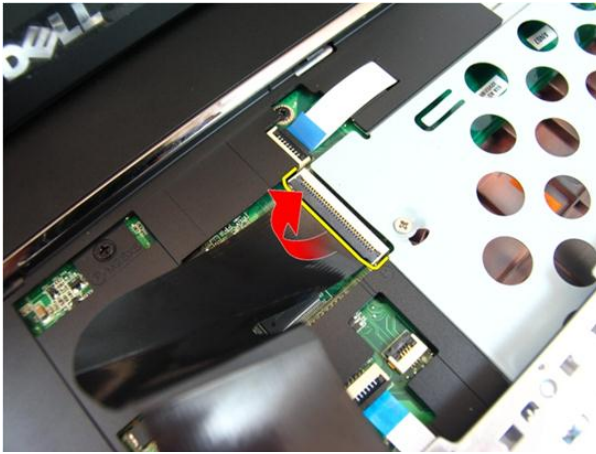
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Press the keyboard down. Pry the keyboard with the use of a flat-head screwdriver towards the display to reveal the first keyboard retainer.

4. Pry up the second keyboard retainer.

5. Pry up the third keyboard retainer.

6. Pry up the fourth keyboard retainer.

7. Pull up the keyboard from the palm rest.

8. Release the latch on the system board connector, then disconnect the keyboard cable.

Installing The Keyboard

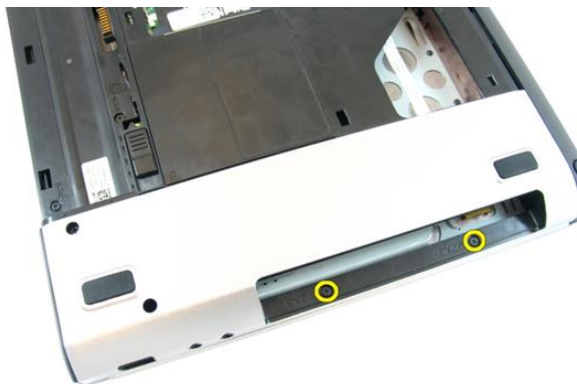
1. Push the keyboard down to engage the keyboard retainers.
2. Install the *battery*.
3. Follow the procedures in *After Working Inside Your Computer*.

9

Palm Rest

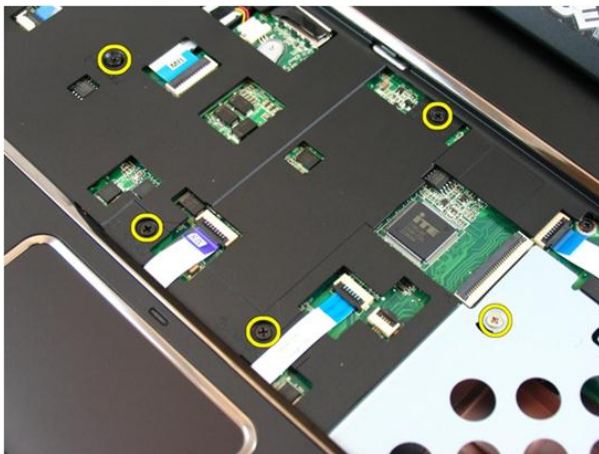
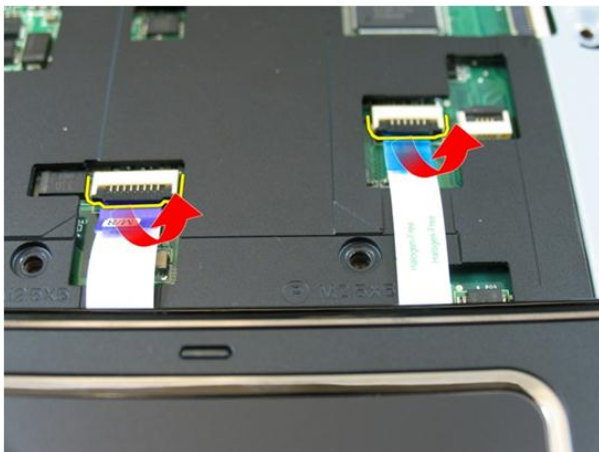
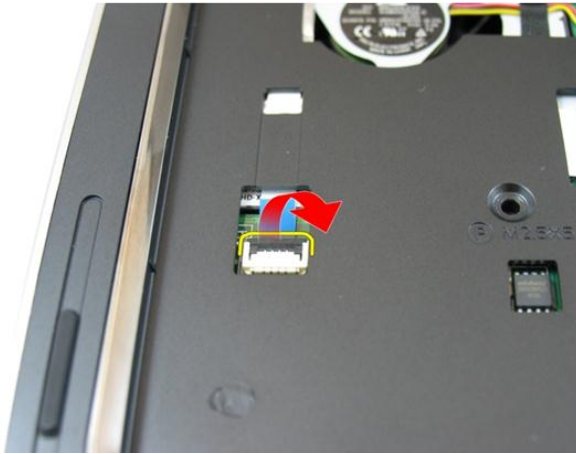
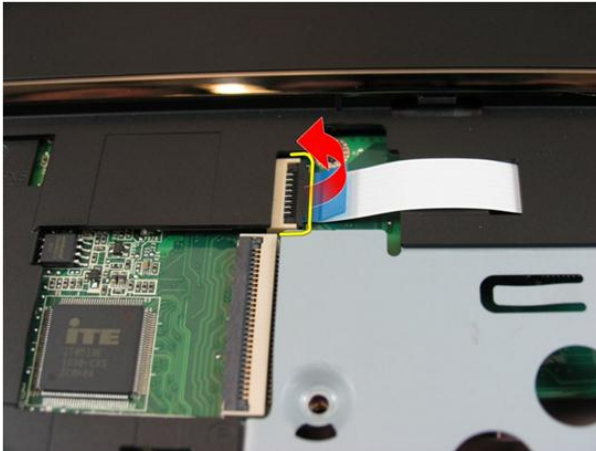
Removing The Palm Rest

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the screws in the battery compartment

7. Remove the screws in the optical drive compartment.

8. Remove the rubber from the bottom base on the right side.

9. Remove the rubber from the bottom base on the left side.

10. Remove all the screws from the bottom base.

11. Flip the computer around and remove the screws that secures the palm rest.

12. Release the latches on the system board connector, then disconnect the touch pad cable and the finger printer cable.

13. Release the latch on the system board connector and then disconnect the power button cable.

14. Release the latch on the system board connector and then disconnect the hot key cable.

15. Pry up the right side of the palm rest.

16. Pry up the left side of the palm rest.

17. Pry up the sides of the palm rest and remove it from the computer.

Installing The Palm Rest

1. Starting from the right edge of the palm rest, press downwards on the system to engage the tabs.
2. Work your way around the edges and ensure the tabs are fully engaged.
3. Connect all cables to the system board.
4. Tighten the screws to secure the palm rest in place.
5. Tighten the screws on the bottom of the system to secure the palm rest in place.
6. Install the *optical drive*.
7. Install the *memory door*.
8. Install the *keyboard*.
9. Install the *battery*.
10. Follow the procedures in *After Working Inside Your Computer*.

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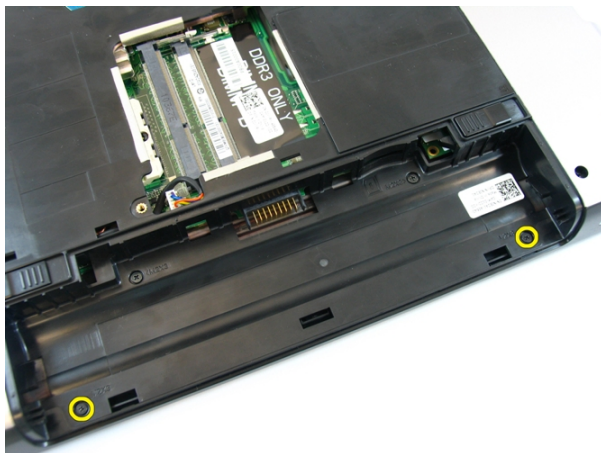
Hinge Cover

Removing The Hinge Cover

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the screws that secure the hinge cover.

8. Press down on the hooks highlighted in the image.

9. Flip the computer around and remove the hinge cover from the side.

Installing The Hinge Cover

1. Align the hinge cover to the computer.
2. Tighten the screws securing the hinge cover to the computer.
3. Install the *palm rest*.
4. Install the *optical drive*.
5. Install the *memory door*.
6. Install the *keyboard*.
7. Install the *battery*.

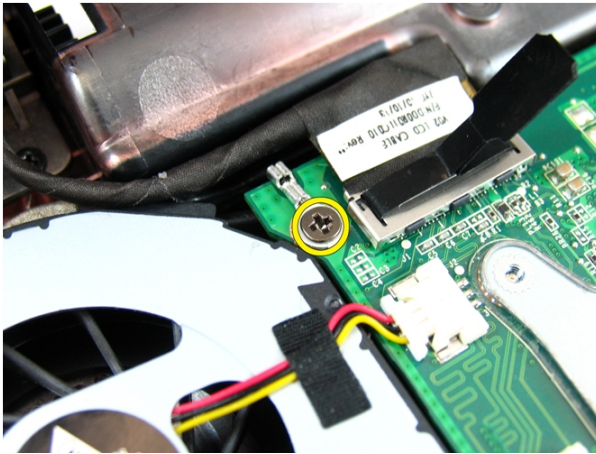
8. Follow the procedures in *After Working Inside Your Computer*.

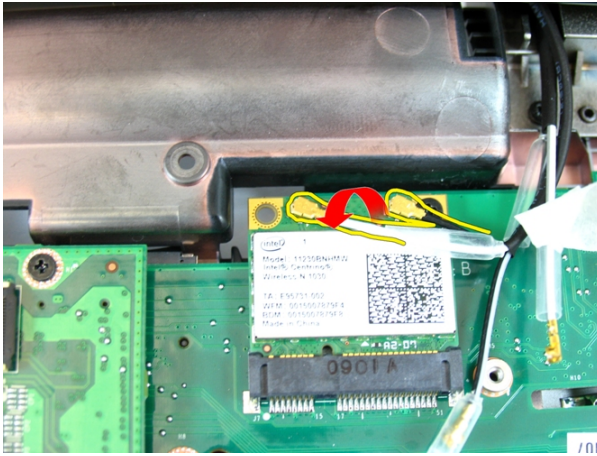
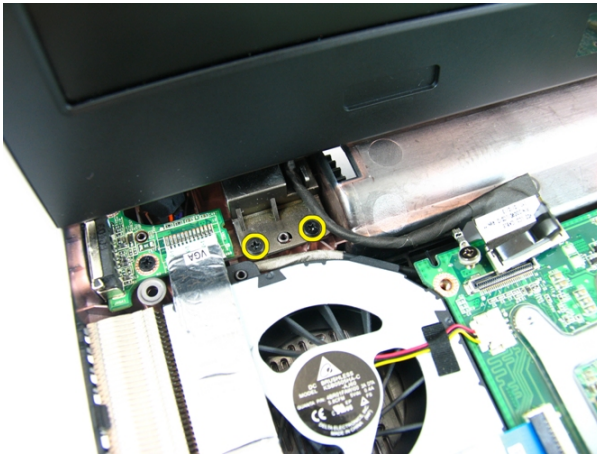
11

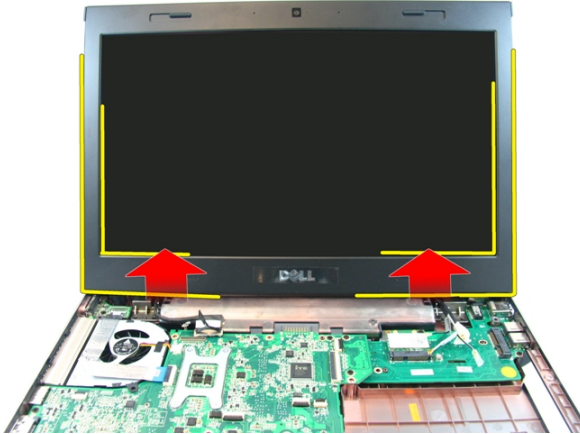
Display Assembly

Removing The Display Assembly

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the screws that secure the display hinge.

8. Loosen the screw that secures the low-voltage differential signaling (LVDS) cable.

9. Disconnect the LVDS cable from the system board.

10. Disconnect the wireless local area network (WLAN) antenna cable.

11. Remove the screws that secure the left hinge.

12. Remove the screws that secure the right hinge.

13. Lift the display assembly and remove it from the computer.

Installing The Display Assembly

1. Attach the display assembly to the base of the computer.
2. Tighten the screws on the display assembly securing it in place.
3. Connect antennae to installed wireless solutions.
4. Install the LVDS cable and tighten the LVDS cable screw.
5. Install the *palm rest*.
6. Install the *optical drive*.
7. Install the *memory door*.

8. Install the *keyboard*.
9. Install the *battery*.
10. Follow the procedures in *After Working Inside Your Computer*.

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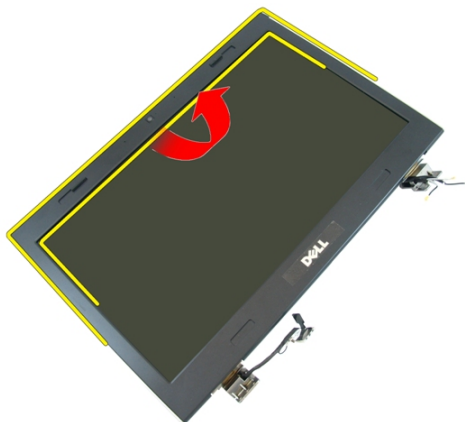
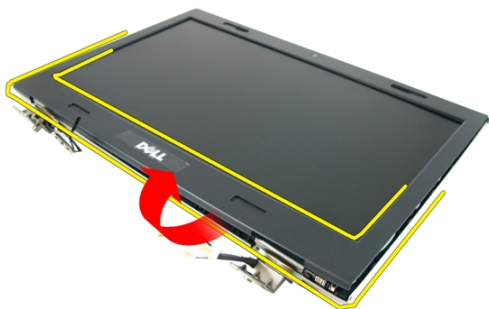
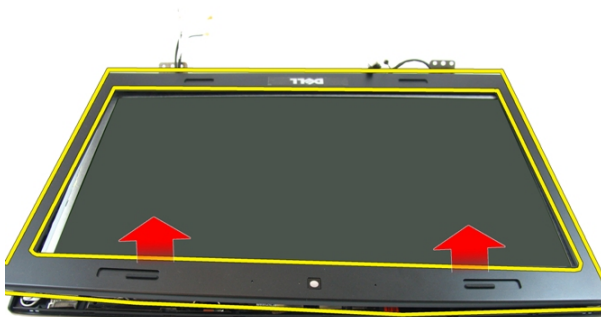
Display Bezel

Removing The Display Bezel

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the *display assembly*.
8. Pry up the upper side of the display bezel.

9. Pry up the sides of the display bezel.

10. Remove the display bezel.

Installing The Display Bezel

1. Place the display bezel on the computer.
2. Starting from the bottom edge, press downward on the display bezel to engage the tabs.
3. Work your way around the sides and top edge.
4. Install the *display Assembly*
5. Install the *palm rest*.
6. Install the *optical drive*.

7. Install the *memory door*.
8. Install the *keyboard*.
9. Install the *battery*.
10. Follow the procedures in *After Working Inside Your Computer*.

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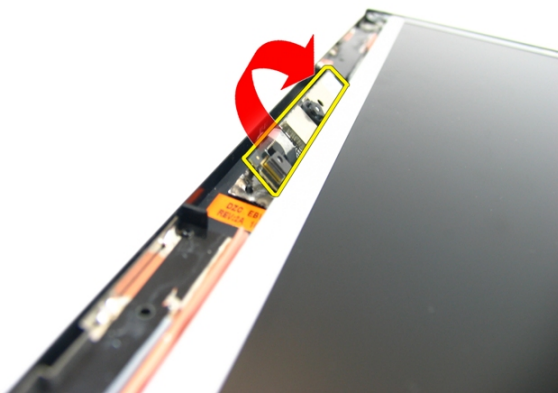
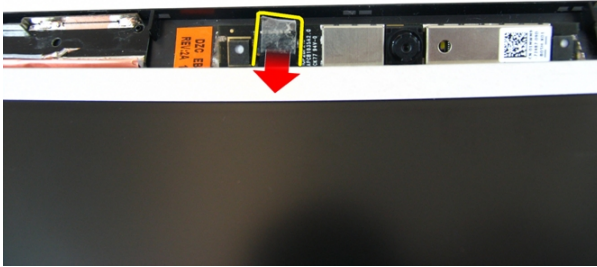
Camera

Removing The Camera

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the *display assembly*.
8. Remove the *display bezel*.
9. Lift the display camera from the display cover.

10. Peel off the tape from the display camera.

11. Disconnect the camera cable and remove the display camera.

Installing The Camera

1. Connect the camera cable and the camera to the display assembly.
2. Affix the tape to secure the camera.
3. Install the *display bezel*.
4. Install the *display Assembly*
5. Install the *palm rest*.
6. Install the *optical drive*.
7. Install the *memory door*.

8. Install the *keyboard*.
9. Install the *battery*.
10. Follow the procedures in *After Working Inside Your Computer*.

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Display Panel

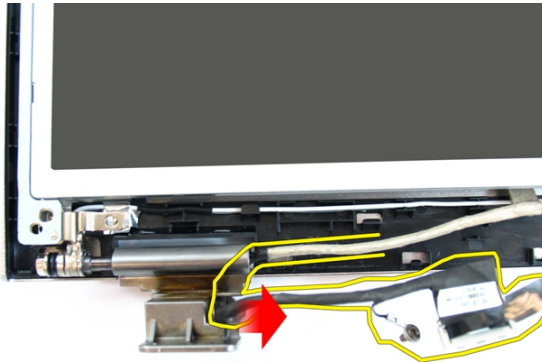
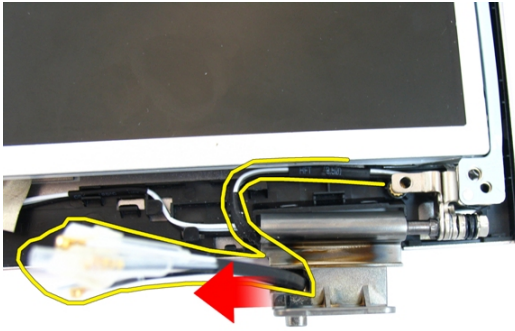
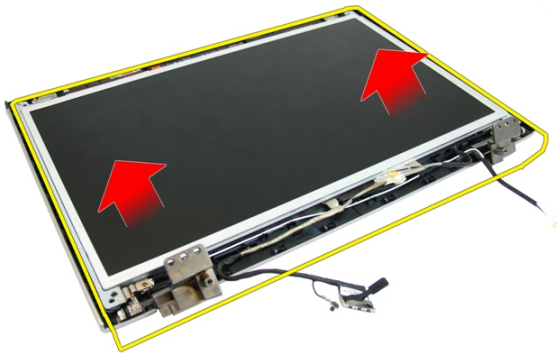
Removing The Display Panel

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the *display assembly*.
8. Remove the *display bezel*.
9. Remove the *display camera*.
10. Remove the screw that secures the left display bracket assembly.

11. Remove the screws that secure the left display bracket.

12. Remove the screw that secures the right display bracket assembly.

13. Remove the screws that secure the right display bracket.

14. Release the display cable from the trough.

15. Release the wireless local area network (WLAN) antenna from the trough.

16. Lift and remove the display panel module from the display cover.

Installing The Display Panel

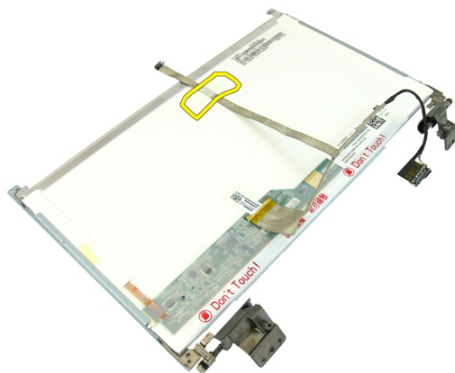
1. Install the wireless local area network (WLAN) antenna cables.
2. Install the screws that secure the right and the left display brackets.
3. Install the *display camera*.
4. Install the *display bezel*.
5. Install the *display Assembly*.
6. Install the *palm rest*.
7. Install the *optical drive*.

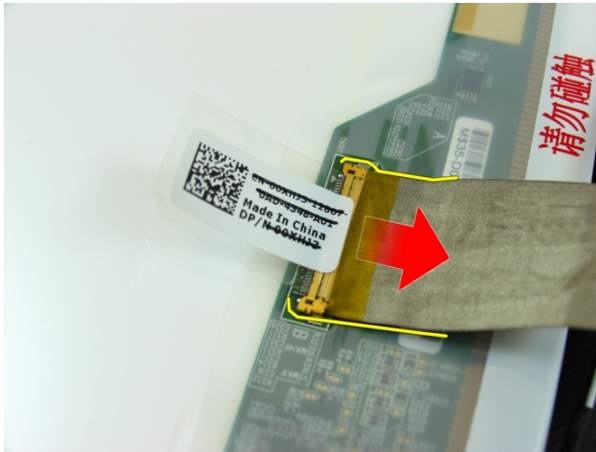
8. Install the *memory door*.
9. Install the *keyboard*.
10. Install the *battery*.
11. Follow the procedures in *After Working Inside Your Computer*.

15

Display Cable

Removing The Display Cable

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the *display assembly*.
8. Remove the *display bezel*.
9. Remove the *display camera*.
10. Remove the *display panel*.
11. Peel off the tape affixing the display cable.

12. Peel off the tape from the display cable.

13. Disconnect the display cable from the display panel.

Installing The Display Cable

1. Connect the display cable to the display panel.
2. Attach the tape affixing the display cable.
3. Install the *display panel*.
4. Install the *display camera*.
5. Install the *display bezel*.
6. Install the *display Assembly*.
7. Install the *palm rest*.

8. Install the *optical drive*.
9. Install the *memory door*.
10. Install the *keyboard*.
11. Install the *battery*.
12. Follow the procedures in *After Working Inside Your Computer*.

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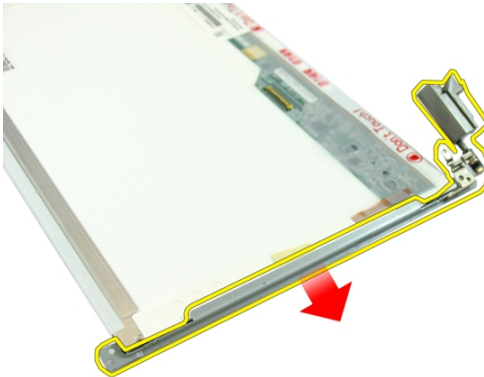
Display Brackets and Hinges

Removing The Display Brackets And Hinges

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the *display assembly*.
8. Remove the *display bezel*.
9. Remove the *display camera*.
10. Remove the *display panel*.
11. Remove the screws that secure the left display bracket.

12. Remove the left display bracket.

13. Remove the screws that secure the right display bracket.

14. Remove the right display bracket.

Installing The Display Brackets And Hinges

1. Install the screws that secure the right and the left display brackets.
2. Install the *display panel*.
3. Install the *display camera*.
4. Install the *display bezel*.
5. Install the *display Assembly*.
6. Install the *palm rest*.
7. Install the *optical drive*.
8. Install the *memory door*.
9. Install the *keyboard*.
10. Install the *battery*.
11. Follow the procedures in *After Working Inside Your Computer*.

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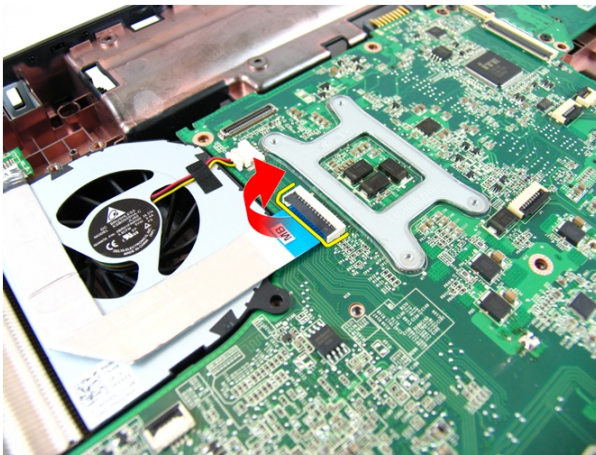
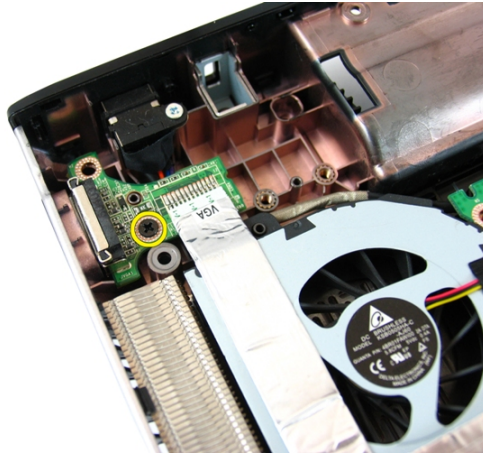
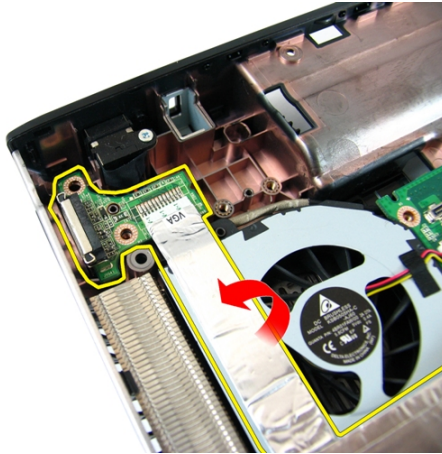
VGA Board

Removing the VGA Board

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the *hinge cover*.
8. Remove the *display assembly*.
9. Release the latch on the system board and then disconnect the VGA cable.

10. Remove the screw that secures the VGA board.

11. Remove the VGA board from the chassis.

Installing The VGA Board

1. Install the VGA Board.
2. Install the screw that secures the VGA board.
3. Connect the VGA cable.
4. Install the *display assembly*.
5. Install the *hinge cover*.
6. Install the *palm rest*.
7. Install the *optical drive*.

8. Install the *memory door*.
9. Install the *keyboard*.
10. Install the *battery*.
11. Follow the procedures in *After Working Inside Your Computer*.

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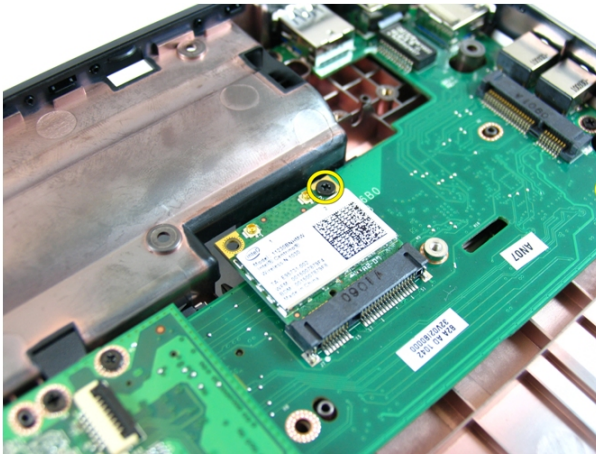
Wireless Local Area Network (WLAN) Card

Removing The Wireless Local Area Network (WLAN) Card

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *memory door*.
5. Remove the *optical drive*.
6. Remove the *palm rest*.
7. Remove the screw that secures the WLAN card.

8. Pull the WLAN card straight out of its socket and remove it.

Installing The Wireless Local Area Network (WLAN) Card

1. Slide the WLAN card into its slot.
2. Tighten the screw to secure the WLAN card in place.
3. Connect the antennae according to the color code on the WLAN card.
4. Install the *palm rest*.
5. Install the *optical drive*.
6. Install the *memory door*.
7. Install the *keyboard*.
8. Install the *battery*.
9. Follow the procedures in *After Working Inside Your Computer*.

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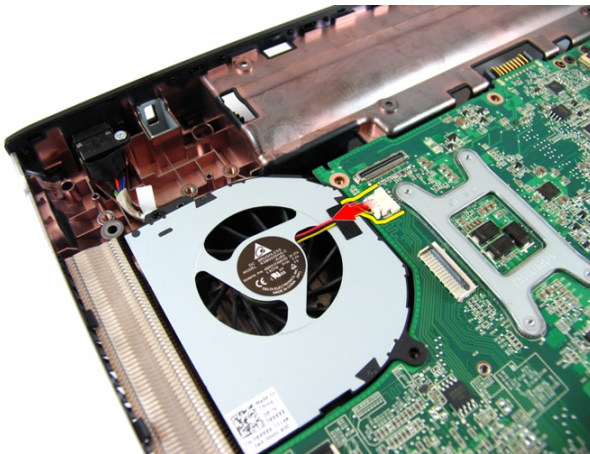
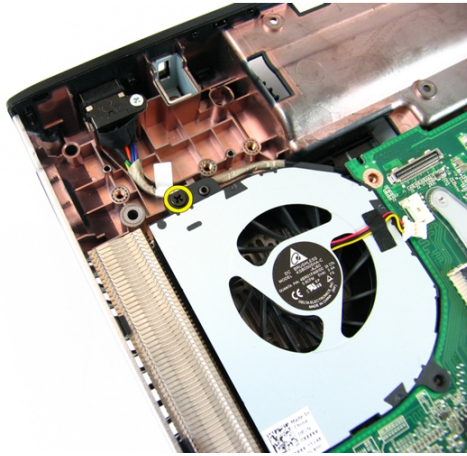
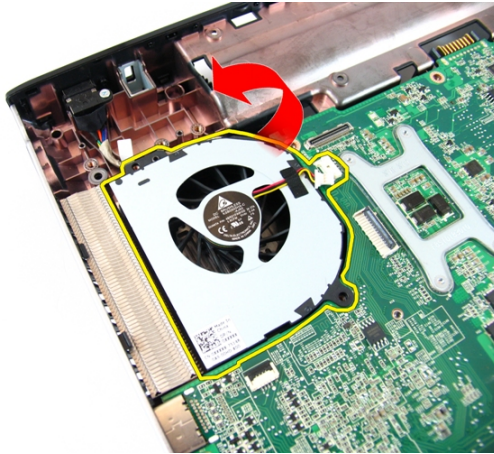
System Fan

Removing The System Fan

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *keyboard*.
4. Remove the *optical drive*.
5. Remove the *memory door*.
6. Remove the *palm rest*.
7. Remove the *display assembly*.
8. Remove the *hinge cover*.
9. Remove the *VGA board*.
10. Disconnect the system fan cable from the system board.

11. Remove the screw that secures the system fan.

12. Remove the system fan from the bottom base module.

Installing The System Fan

1. Install the screw that secures the system fan.
2. Connect the system fan cable to the system board.
3. Install the *VGA board*
4. Install the *hinge cover*.
5. Install the *display assembly*.
6. Install the *palm rest*.
7. Install the *memory door*.

8. Install the *optical drive*.
9. Install the *keyboard*.
10. Install the *battery*.
11. Follow the procedures in *After Working Inside Your Computer*.

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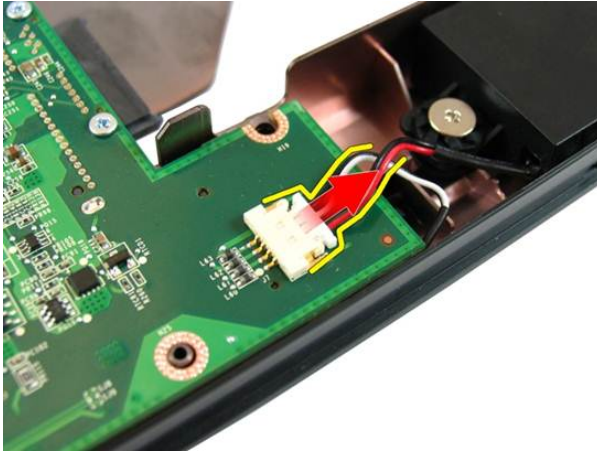
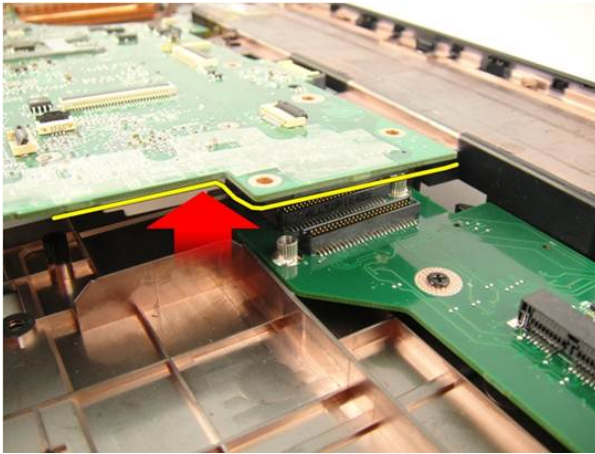
System Board

Removing The System Board

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *ExpressCard*.
4. Remove the *keyboard*.
5. Remove the *memory door*.
6. Remove the *optical drive*.
7. Remove the *palm rest*.
8. Remove the *hinge cover*.
9. Remove the *display assembly*.
10. Remove the *WLAN card*
11. Remove the *VGA board*.
12. Remove the *system fan*.
13. Disconnect the DC-in cable connector from the system board.

14. Disconnect the speaker cable from the system board.

15. Remove the screws that secures the system board.

16. Disconnect the system board from the Input/Output panel.

17. Lift and remove system board from the chassis.

Installing The System Board

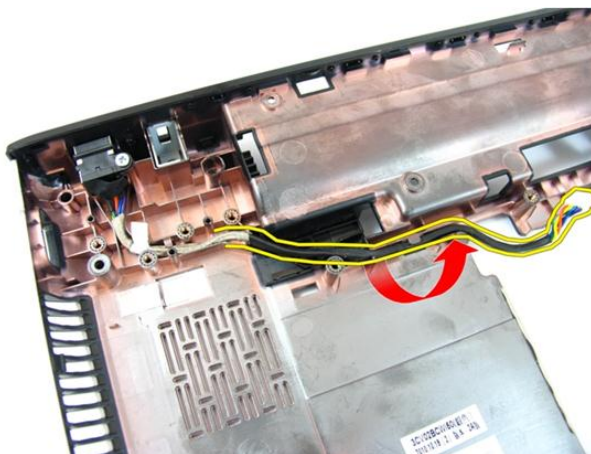
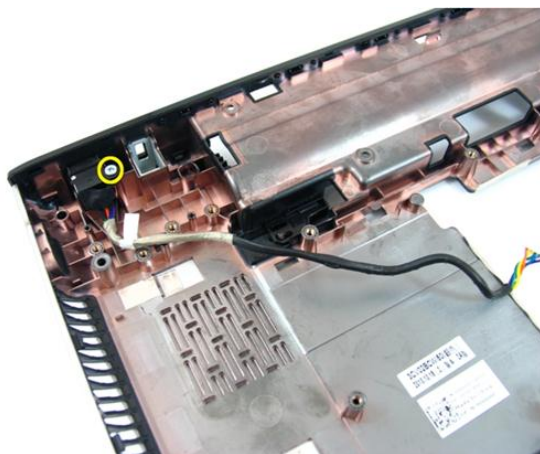
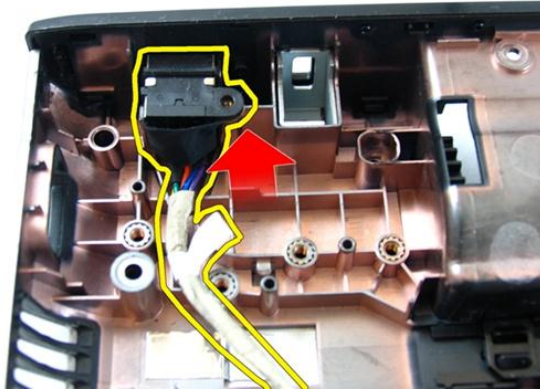
1. Connect the system board to the Input/Output panel.
2. Tighten the screws that secures the system board.
3. Install the *system fan*.
4. Install the *VGA board*.
5. Install the *WLAN mini-card*.
6. Install the *display assembly*.
7. Install the *hinge cover*.

8. Install the *palm rest*.
9. Install the *optical drive*.
10. Install the *memory door*.
11. Install the *keyboard*.
12. Install the *express dummy card*.
13. Install the *battery*.
14. Follow the procedures in *After Working Inside Your Computer*.

21

DC-in Jack

Removing The DC-in Port

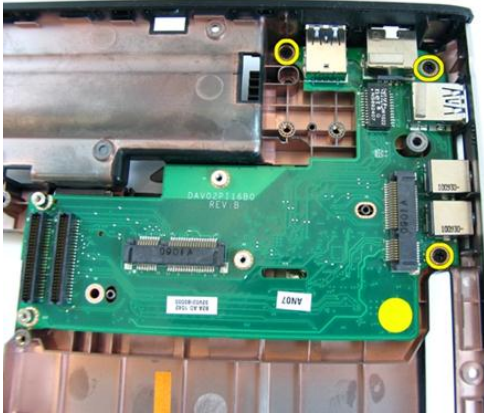
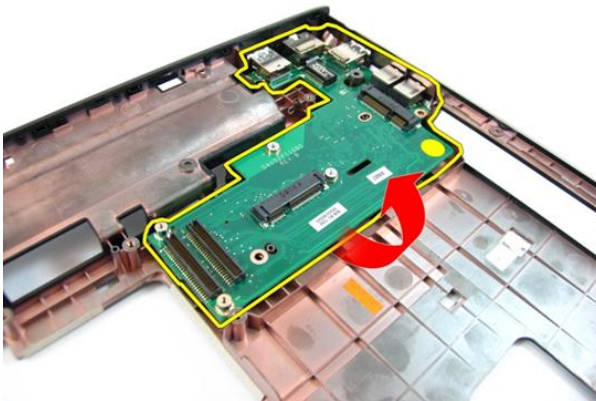
1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *express dummy card*.
4. Remove the *keyboard*.
5. Remove the *memory door*.
6. Remove the *optical drive*.
7. Remove the *palm rest*.
8. Remove the *hinge cover*.
9. Remove the *display assembly*.
10. Remove the *WLAN mini-card*
11. Remove the *VGA board*.
12. Remove the *system fan*.
13. Remove the *system board*.
14. Release the DC-in cable from the trough.

15. Remove the screw securing the DC-in Port.

16. Remove the DC-in Port from the bottom base.

Installing The DC-in Port

1. Install DC-in port, screws, and route the cables.
2. Install the *system board*.
3. Install the *system fan*.
4. Install the *VGA board*.
5. Install the *WLAN card*.
6. Install the *display assembly*.
7. Install the *hinge cover*.
8. Install the *palm rest*.
9. Install the *optical drive*.
10. Install the *memory door*.
11. Install the *keyboard*.
12. Install the *express dummy card*.
13. Install the *battery*.
14. Follow the procedures in *After Working Inside Your Computer*.

22

Input/Output Board

Removing The Input/Output Panel

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *express dummy card*.
4. Remove the *keyboard*.
5. Remove the *memory door*.
6. Remove the *optical drive*.
7. Remove the *palm rest*.
8. Remove the *hinge cover*.
9. Remove the *display assembly*.
10. Remove the *WLAN mini-card*
11. Remove the *VGA board*.
12. Remove the *system fan*.
13. Remove the *system board*.
14. Remove the screws that secures the I/O panel.

15. Remove the I/O panel from the bottom base.

Installing The Input/Output Panel

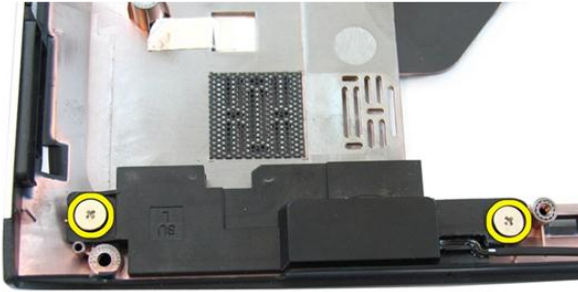
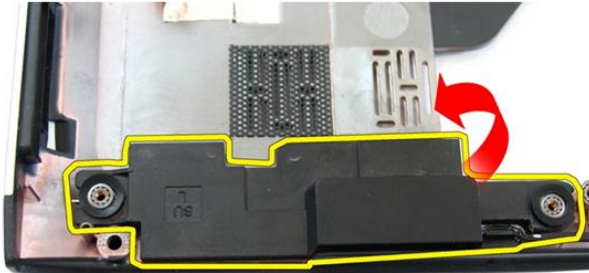
1. Install The Input/Output Panel.
2. Install the screws that secures the I/O panel.
3. Install the *system board*.
4. Install the *system fan*.
5. Install the *VGA board*.
6. Install the *WLAN mini-card*.
7. Install the *display assembly*.

8. Install the *hinge cover*.
9. Install the *palm rest*.
10. Install the *optical drive*.
11. Install the *memory door*.
12. Install the *keyboard*.
13. Install the *express dummy card*.
14. Install the *battery*.
15. Follow the procedures in *After Working Inside Your Computer*.

23

Speaker

Removing The Speakers

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *express dummy card*.
4. Remove the *keyboard*.
5. Remove the *memory door*.
6. Remove the *optical drive*.
7. Remove the *palm rest*.
8. Remove the *hinge cover*.
9. Remove the *display assembly*.
10. Remove the *WLAN mini-card*.
11. Remove the *VGA board*.
12. Remove the *system fan*.
13. Remove the *system board*.
14. Remove the screws that secure the left speaker.

15. Lift the left speaker from the bottom base.

16. Remove the screws that secure the right speaker.

17. Lift the right speaker and remove the speaker module.

Installing The Speakers

1. Insert the right and left speakers in their compartment.
2. Replace the screws securing the right and left speakers.
3. Install the *system board*.
4. Install the *system fan*.
5. Install the *VGA board*.
6. Install the *WLAN mini-card*.
7. Install the *display assembly*.

8. Install the *hinge cover*.
9. Install the *palm rest*.
10. Install the *optical drive*.
11. Install the *memory door*.
12. Install the *keyboard*.
13. Install the *express dummy card*.
14. Install the *battery*.
15. Follow the procedures in *After Working Inside Your Computer*.

24

Hard Drive

Removing The Hard Drive

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *express dummy card*.
4. Remove the *keyboard*.
5. Remove the *memory door*.
6. Remove the *optical drive*.
7. Remove the *palm rest*.
8. Remove the *hinge cover*.
9. Remove the *display assembly*.
10. Remove the *WLAN mini-card*
11. Remove the *VGA board*.
12. Remove the *system fan*.
13. Remove the *system board*.
14. Remove the screws that secures the hard drive bracket.

15. Slide the hard-drive module to release it from the system board

16. Remove the hard drive module from the system board.

17. Remove the screws that secures the hard-drive bracket on one side.

18. Remove the screws that secures the hard-drive bracket on the other side.

19. Slide the hard drive from the hard-drive bracket.

Installing The Hard Drive

1. Tighten the screws to secure the hard-drive bracket.
2. Slide the hard-drive module into the system board compartment.
3. Tighten the screws to secure the hard drive.
4. Install the *system board*.
5. Install the *system fan*.
6. Install the *VGA board*.
7. Install the *WLAN mini-card*.
8. Install the *display assembly*.
9. Install the *hinge cover*.
10. Install the *palm rest*.

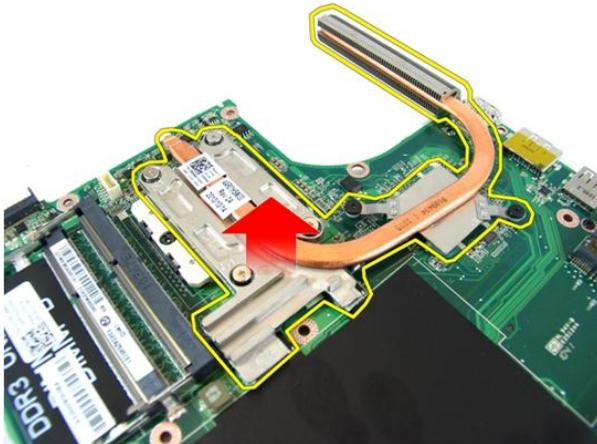
11. Install the *optical drive*.
12. Install the *memory door*.
13. Install the *keyboard*.
14. Install the *express dummy card*.
15. Install the *battery*.
16. Follow the procedures in *After Working Inside Your Computer*.

25

Heat Sink

Removing The Heat Sink

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *express dummy card*.
4. Remove the *keyboard*.
5. Remove the *memory door*.
6. Remove the *optical drive*.
7. Remove the *palm rest*.
8. Remove the *hinge cover*.
9. Remove the *display assembly*.
10. Remove the *WLAN mini-card*
11. Remove the *VGA board*.
12. Remove the *system fan*.
13. Remove the *system board*.
14. Loosen the screws that secures the heat sink in the sequence shown in the image.

15. Lift the heat sink up and remove it from the system board.

Installing The Heat Sink

1. Install the screws that secure the heat sink to the system board.
2. Install the *system board*.
3. Install the *system fan*.
4. Install the *VGA board*.
5. Install the *WLAN mini-card*.
6. Install the *display assembly*.
7. Install the *hinge cover*.

8. Install the *palm rest*.
9. Install the *optical drive*.
10. Install the *memory door*.
11. Install the *keyboard*.
12. Install the *express dummy card*.
13. Install the *battery*.
14. Follow the procedures in *After Working Inside Your Computer*.

26

Processor

Removing The Processor

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *express dummy card*.
4. Remove the *keyboard*.
5. Remove the *memory door*.
6. Remove the *optical drive*.
7. Remove the *palm rest*.
8. Remove the *hinge cover*.
9. Remove the *display assembly*.
10. Remove the *WLAN mini-card*
11. Remove the *VGA board*.
12. Remove the *system fan*.
13. Remove the *system board*.
14. Remove the *heat sink*.
15. Rotate the processor-cam screw in a counter-clockwise direction.

16. Lift the processor straight up from the socket and place it in an antistatic packaging.

Installing The Processor

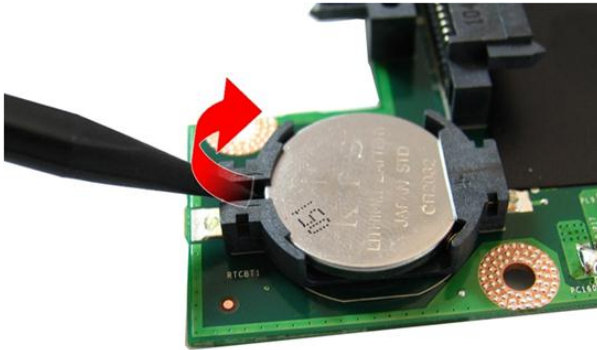
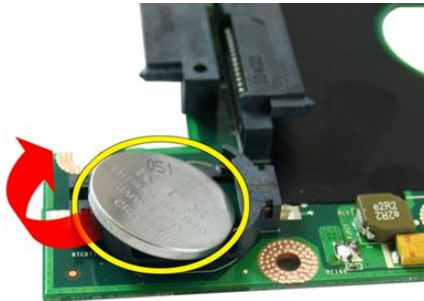
1. Insert the processor into the processor socket. Ensure the processor is properly seated.
2. Tighten the processor cam-screw in a clockwise direction to the locked position.
3. Install the *heat sink*.
4. Install the *system board*.
5. Install the *system fan*.
6. Install the *VGA board*.

7. Install the *WLAN mini-card*.
8. Install the *display assembly*.
9. Install the *hinge cover*.
10. Install the *palm rest*.
11. Install the *optical drive*.
12. Install the *memory door*.
13. Install the *keyboard*.
14. Install the *express dummy card*.
15. Install the *battery*.
16. Follow the procedures in *After Working Inside Your Computer*.

27

Coin-Cell Battery

Removing The Coin-Cell Battery

1. Follow the procedures in *Before Working On Your Computer*.
2. Remove the *battery*.
3. Remove the *express dummy card*.
4. Remove the *keyboard*.
5. Remove the *memory door*.
6. Remove the *optical drive*.
7. Remove the *palm rest*.
8. Remove the *hinge cover*.
9. Remove the *display assembly*.
10. Remove the *WLAN mini-card*.
11. Remove the *VGA board*.
12. Remove the *system fan*.
13. Remove the *system board*.
14. Use a coin-cell battery remover to release the coin-cell battery.

15. Remove the coin-cell battery from the socket.

Installing The Coin-Cell Battery

1. Attach the coin-cell battery to the coin-cell compartment.
2. Install the *system board*.
3. Install the *system fan*.
4. Install the *VGA board*.
5. Install the *WLAN mini-card*.
6. Install the *display assembly*.
7. Install the *hinge cover*.

8. Install the *palm rest*.
9. Install the *optical drive*.
10. Install the *memory door*.
11. Install the *keyboard*.
12. Install the *express dummy card*.
13. Install the *battery*.
14. Follow the procedures in *After Working Inside Your Computer*.

28

System Setup

System Setup Overview

System Setup allows you to:

- change the system configuration information after you add, change, or remove any hardware in your computer.
- set or change a user-selectable option such as the user password.
- read the current amount of memory or set the type of hard drive installed.

Before you use System Setup, it is recommended that you write down the System Setup screen information for future reference.

CAUTION: Unless you are an expert computer user, do not change the settings for this program. Certain changes can cause your computer to work incorrectly.

System Setup Enter

1. Turn on (or restart) your computer.
2. When the blue DELL logo is displayed, you must watch for the F2 prompt to appear.
3. Once the F2 prompt appears, press <F2> immediately.

NOTE: The F2 prompt indicates that the keyboard has initialized. This prompt can appear very quickly, so you must watch for it to display, and then press <F2> . If you press <F2> before you are prompted, this keystroke will be lost.

4. If you wait too long and the operating system logo appears, continue to wait until you see the Microsoft Windows desktop. Then, shut down your computer and try again.

System Setup Screens

Menu — Appears on top of the System Setup window. This field provides a menu to access the System Setup options. Press < Left Arrow > and < Right Arrow > keys to

navigate. As a **Menu** option is highlighted, the **Options List** lists the options that define the hardware installed on your computer.

Options List — Appears on the left side of the System Setup window. The field lists features that define the configuration of your computer, including installed hardware, power conservation, and security features. Scroll up and down the list with the up- and down-arrow keys. As an option is highlighted, the **Options Field** displays the option's current and available settings.

Options Field — Appears on the right side of **Options List** and contains information about each option listed in the **Options List**. In this field you can view information about your computer and make changes to your current settings. Press < Enter> to make changes to your current settings. Press <ESC> to return to the **Options List**.

NOTE: Not all settings listed in the Options Field are changeable.

Help — Appears on the right side of the System Setup window and contains help information about the option selected in **Options List**.

Key Functions — Appears below the **Options Field** and lists keys and their functions within the active system setup field.

Use the following keys to navigate through the System Setup screens:

Keystroke	Action
< F2 >	Displays information on any selected item in the System Setup.
< Esc >	Exit from current view or switch the current view to the **Exit** page in the System Setup.
< Up Arrow > or < Down Arrow >	Select an item to display.
< Left Arrow > or < Right Arrow >	Select a menu to display.
– or +	Change existing item value.
< Enter >	Select the sub menu or execute command.
< F9 >	Load setup default.

Keystroke	Action
< F10 >	Save current configuration and exit System Setup.

System Setup Options

Main

System Information	Displays the computer model number.
System Date	Re-sets the date on the computer's internal calendar.
System Time	Re-sets the time on the computer's internal clock.
BIOS Version	Displays the BIOS revision.
Product Name	Displays the product name and the model number.
Service Tag	Displays the service tag of your computer.
Asset Tag	Displays the asset tag of your computer (if available).
Processor Information	
CPU Type	Displays the type of processor.
CPU Speed	Displays the speed of the processor.
CPU ID	Displays the processor ID.
L1 Cache Size	Displays the processor L1 cache size.
L2 Cache Size	Displays the processor L2 cache size.
L3 Cache Size	Displays the processor L3 cache size.
Memory Information	
Extended Memory	Displays the memory installed on the computer.
System Memory	Displays the memory in-built on the computer.
Memory Speed	Displays the memory speed.
Device Information	

Fixed HDD	Displays the model number and capacity of the hard drive.
SATA ODD	Displays the model number and capacity of the optical drive.
eSATA Device	Displays information about the installed eSATA device.
AC Adapter Type	Displays the type of the AC adapter.

Advanced

Intel SpeedStep	Enable or disable the Intel SpeedStep feature.	Default: Enabled
Virtualization	Enable or disable the Intel Virtualization feature.	Default: Enabled
Integrated NIC	Enable or disable the power supply to the on–board network card.	Default: Enabled
USB Emulation	Enable or disable the USB emulation feature	Default: Enabled
USB Powershare	Allows the computer to charge external devices using the stored system battery power through the USB PowerShare port, even while the computer is turned off.	Default: Enabled
USB Wake Support	Allows USB devices to wake-up the computer from standby. This feature is enabled only when the AC adapter is connected.	Default: Disabled
SATA Operation	Change the SATA controller mode to either ATA or AHCI.	Default: AHCI
Adapter Warnings	Enables or disables adapter warnings.	Default: Enabled
Function Key Behavior	Specifies the behavior of the function key <Fn> .	Default: Function key first

Charger Behavior	Specifies if the computer battery will be charged when connected to an AC power source.	Default: Enabled
Miscellaneous Devices	These fields let you enable or disable various on board devices.	

Security

Set Service Tag	This field displays your system's service tag. If the service tag is not already set, this field can be used to enter it.
Set Supervisor Password	Allows you to change or delete the administrator password.
Set HDD Password	Allows you to set a password on the computer's internal hard drive (HDD).
Password Bypass	Allows you to bypass the system password and the internal HDD password prompts during a system restart/resume from hibernate state.
Computrace	Enable or disable the Computrace feature on your computer.

Boot

Boot Priority Order	Specifies the order of different devices in which the computer will boot through at start up.
Hard Disk Drives	Specify which hard drive the computer can boot through.
USB Storage Device	Specify which USB storage device the computer can boot through.
CD/DVD ROM Drives	Specify which CD/DVD the computer can boot through.
eSATA	Specify which eSATA device the computer can boot through.

Network	Specify which network device the computer can boot through.

Exit

This section allows you to save, discard, and load default settings before exiting from System Setup.

29

Diagnostics

Device Status Lights

Turns on when you turn on the computer and blinks when the computer is in a power management mode.

Turns on when the computer reads or writes data.

Turns on steadily or blinks to indicate battery charge status.

Turns on when wireless networking is enabled.

Battery Status Lights

If the computer is connected to an electrical outlet, the battery light operates as follows:

- **Alternately blinking amber light and white light** — An unauthenticated or unsupported non-Dell AC adapter is attached to your laptop.
- **Alternately blinking amber light with steady white light** — Temporary battery failure with AC adapter present.
- **Constantly blinking amber light** — Fatal battery failure with AC adapter present.
- **Light off** — Battery in full charge mode with AC adapter present.
- **White light on** — Battery in charge mode with AC adapter present.

Diagnostic Beep Codes

The following table shows the possible beep codes that may be emitted by the computer when your computer is unable to complete a power on self test.

Beep	Possible Cause	Troubleshooting Steps
1	BIOS ROM checksum in progress of failure.	System board failure, covers BIOS corruption or ROM error
2	No RAM detected	No memory detected
3	• Chipset Error (North and South Bridge Chipset, DMA/IMR/ Timer Error) • Time-Of-Day Clock test failure • Gate A20 failure • Super I/O chip failure • Keyboard controller test failure	System board Failure
4	RAM Read/Write failure	Memory failure
5	Real-time clock power fail	CMOS battery failure
6	Video BIOS Test Failure	Video card failure
7	Processor Failure	Processor Failure
8	Display	Display Failure

30 Specifications

NOTE: Offerings may vary by region. The following specifications are only those required by law to ship with your computer. For more information regarding the configuration of your computer, click **Start** → **Help and Support** and select the option to view information about your computer.

System Information	
Chipset:	
Vostro 3350/ 3450/ 3550/ 3750	Intel HM67
Vostro 3555	AMD A70M
Processor:	
Vostro 3350/ 3450/ 3550/ 3750	• Intel Core i3 / i5 series • Intel Core i7 (Quad-Core for Vostro 3750 only)
Vostro 3555	• AMD Dual Core • AMD Quad Core

Memory	
Memory connector	two SODIMM slots
Memory capacity	1 GB, 2 GB, and 4 GB
Memory type	DDR3 SDRAM with 1333 MHz
Minimum memory	2 GB
Maximum memory	8 GB **NOTE:** Only 64-bit operating systems can detect memory capacities greater than 4 GB.

Video	
Video type	• integrated on system board • discrete video card
Video controller and memory	
UMA:	
Vostro 3350/ 3450/ 3550/ 3750	Intel Graphics Media Accelerator HD
Vostro 3555	AMD Radeon HD series — up to 256 MB / 512 MB of shared memory
Discrete:	
Vostro 3350	AMD Radeon HD6490 GDDR5 - 512 MB
Vostro 3450/ 3550	AMD Radeon HD6630 - 1 GB VRAM
Vostro 3750	NVIDIA GeForce GT 525M - 1 GB

Communications	
Network adapter	10/100/1000 Mbps Ethernet LAN
Wireless	internal wireless local area network (WLAN) and wireless wide area network (WWAN)

Ports and Connectors	
Audio	one microphone connector and one stereo headphones/ external speakers connector
Video	
Vostro 3350/ 3450/ 3550/ 3555/ 3750	one 19-pin HDMI connector and one 15-pin VGA connector
Network adapter	one RJ-45 connector
USB	
Vostro 3350	two USB 3.0-compliant connectors and one eSATA/ USB 2.0-compliant connector
Vostro 3450	two USB 3.0-compliant connectors, one USB 2.0-compliant connector and one eSATA/USB 2.0-compliant connector

Ports and Connectors	
Vostro 3550	two USB 3.0-compliant connectors, one USB 2.0-compliant connector and one eSATA/USB 2.0-compliant connector
Vostro 3555	three USB 3.0-compliant connectors and one eSATA/ USB 2.0-compliant connector
Vostro 3750	two USB 3.0-compliant connectors, one USB 2.0-compliant connector and one eSATA/USB 2.0-compliant connector
Memory card reader	one 8-in-1 memory card reader
fingerprint reader	one

Keyboard	
Number of keys	
Vostro 3350/ 3450/ 3550/ 3555	United States: 86 keys, United Kingdom: 87 keys, Brazil: 87 keys, and Japan: 90 keys
Vostro 3750	United States: 101 keys United Kingdom: 102 keys Brazil: 104 keys Japan: 105 keys
Layout	QWERTY/AZERTY/Kanji

Touchpad	
Active Area:	
Vostro 3350/ 3450/ 3550/ 3555	
X-axis	80.00 mm
Y-axis	40.70 mm
Vostro 3750	
X-axis	95.00 mm
Y-axis	52.00 mm

Display	
Vostro 3350	
Type	white Light Emitting Diode (WLED) display
Size	13.3 inch high definition (HD)

Display	
Active area (X/Y)	293.42 mm x 164.97 mm
Dimensions:	
Height	189.00 mm (7.44 inches)
Width	314.00 mm (12.36 inches)
Diagonal	337.82 mm (13.30 inches)
Maximum resolution	1366 x 768 pixels at 263 K colors
Maximum Brightness	200 nits
Operating angle	0° (closed) to 135°
Refresh rate	60 Hz
Minimum Viewing angles:	
Horizontal	+/- 40°
Vertical	+10°/-30°
Pixel pitch	0.2148 mm
Vostro 3450	
Type	WLED display
Size	14.0 inch HD
Active area (X/Y)	309.40 mm x 173.95 mm
Dimensions:	
Height	192.50 mm (7.58 inches)
Width	324.00 mm (12.76 inches)
Diagonal	355.60 mm (14.00 inches)
Maximum resolution	1366 x 768 pixels at 263 K colors
Maximum Brightness	200 nits
Operating angle	0° (closed) to 135°
Refresh rate	60 Hz
Minimum Viewing angles:	
Horizontal	+/- 40°
Vertical	+10°/-30°

Display	
Pixel pitch	0.2265 mm
Vostro 3550/3555	
Type	WLED display
Size	15.6 inch HD
Active area (X/Y)	344.23 mm x 193.54 mm
Dimensions:	
Height	210.00 mm (8.26 inches)
Width	360.00 mm (14.17 inches)
Diagonal	396.24 mm (15.60 inches)
Maximum resolution	1366 x 768 pixels at 262K colors
Maximum Brightness	220 nits
Operating angle	0° (closed) to 135°
Refresh rate	60 Hz
Minimum Viewing angles:	
Horizontal	+/- 60°
Vertical	+/- 50°
Pixel pitch	0.252 mm
Vostro 3750	
Type	WLED display
Size	17.3 inch HD
Active area (X/Y)	382.08 mm x 214.92 mm
Dimensions:	
Height	398.60 mm
Width	233.30 mm
Diagonal	439.42 mm
Maximum resolution	1600 x 900 pixels at 262K colors
Maximum Brightness	200 nits
Operating angle	0° (closed) to 135°

Display	
Refresh rate	60 Hz
Minimum Viewing angles:	
Horizontal	+/- 40°
Vertical	+10°/- 30°
Pixel pitch	0.238 mm

Battery	
Vostro 3350	
Type	• 4-cell "smart" lithium ion (2.8 AHr) • 8-cell "smart" lithium ion (2.8 AHr)
Dimensions:	
Depth	4-cell — 43.45 mm (1.71 inches)
	8-cell — 43.45 mm (1.71 inches)
Height	4-cell — 19.10 mm (0.75 inch)
	8-cell — 42.36 mm (1.67 inches)
Width	4-cell — 199.10 mm (7.84 inches)
	8-cell — 270.00 mm (10.63 inches)
Weight	
	4-cell — 230.00 g (0.51 lb)
	8-cell — 446.00 g (0.98 lb)
Voltage	14.8 VDC
Vostro 3450/3550/3555	
Type	• 6-cell "smart" lithium ion (2.2 AHr) • 9-cell "smart" lithium ion (2.8 AHr)
Dimensions:	

Battery	
Depth	6-cell / 9-cell — 57.80 mm (2.27 inches)
Height	
	6-cell — 20.80 mm (0.81 inch)
	9-cell — 40.15 mm (1.58 inches)
Width	6-cell / 9-cell — 255.60 mm (10.06 inches)
Weight	
	6-cell — 340.00 g (0.75 lb)
	9-cell — 504.50 g (1.11 lb)
Voltage	11.1 VDC
Vostro 3750	
Type	• 6-cell "smart" lithium ion (2.6 AHr) • 9-cell "smart" lithium ion (2.8 AHr)
Dimensions:	
Depth	
	6-cell — 57.80 mm (2.27 inches)
	9-cell — 57.80 mm (2.27 inches)
Height	
	6-cell — 20.80 mm (0.82 inch)
	9-cell — 40.15 mm (1.58 inches)
Width	6-cell/9-cell — 255.60 mm (10.06 inches)
Weight	
	6-cell — 340.00 g (0.75 lb)
	9-cell — 504.50 g (1.11 lb)
Voltage	11.1 VDC
Temperature range:	

Battery	
Operating	0 °C to 35 °C (32 °F to 95 °F)
Non-operating	–40 °C to ~65 °C (–40 °F to ~149 °F)
Coin-cell battery	3 V CR2032 lithium ion

AC Adapter	
Input voltage	100 VAC to 240 VAC
Input current (maximum)	1.5 A / 1.6 A / 1.7 A / 2.3 A / 2.5 A
Input frequency	50 Hz to 60 Hz
Output power	65 W, 90 W, or 130 W **NOTE:** 130 W AC power adapter is available for Vostro 3750 only.
Output current:	
65 W	• 4.34 A (maximum at 4-second pulse) • 3.34 A (continuous)
90 W	• 5.62 A (maximum at 4-second pulse) • 4.62 A (continuous)
130 W	6.70 A (continuous)
Rated output voltage	19.5 +/– 1.0 VDC
Dimensions:	
65 W:	
Height	28.30 mm (1.11 inches)
Width	137.20 mm (5.40 inches)
Depth	57.80 mm (2.27 inches)
90 W:	
Height	22.60 mm (0.88 inch)
Width	147.00 mm (5.78 inches)

AC Adapter	
Depth	70.00 mm (2.75 inches)
130 W:	
Height	25.40 mm (1.00 inch)
Width	154.70 mm (6.09 inches)
Depth	76.20 mm (3.00 inches)
Temperature range:	
Operating	0 °C to 35 °C (32 °F to 95 °F)
Non Operating	–40 °C to 65 °C (–40 °F to 149 °F)

Physical	
Vostro 3350:	
Height	27.30 mm to 29.80 mm (1.07 inches to 1.17 inches)
Width	329.20 mm (12.96 inches)
Depth	228.50 mm (9.00 inches)
Weight (Minimum)	2.04 kg (4.50 lb)
Vostro 3450:	
Height	30.60 mm to 33.20 mm (1.20 inches to 1.31 inches)
Width	343.00 mm (13.50 inches)
Depth	245.80 mm (9.68 inches)
Weight (Minimum)	2.28 kg (5.02 lb)
Vostro 3550/3555:	
Height	30.40 mm to 34.80 mm (1.20 inches to 1.37 inches)
Width	375.40 mm (14.78 inches)
Depth	260.20 mm (10.24 inches)
Weight (Minimum)	2.47 kg (5.45 lb)
Vostro 3750:	

Physical	
Height	30.80 mm to 34.80 mm (1.21 inches to 1.37 inches)
Width	418.40 mm (16.47 inches)
Depth	286.70 mm (11.29 inches)
Weight (Minimum)	3.00 kg (6.62 lb)

Environmental	
Temperature:	
Operating	10 °C to 35 °C (50 °F to 95 °F)
Storage	-40 °C to 65 °C (-40 °F to 149 °F)
Relative humidity (Maximum):	
Operating	10 % to 90 % (noncondensing)
Storage	5 % to 95 % (noncondensing)
Airborne contaminant level	G1 or lower as defined by ISA-S71.04–1985

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Contacting Dell

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NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

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4. Select the appropriate service or support link based on your need.